Space Weather Forecast

Issued on Wednesday, 03 August 2022 at 01:28 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: No significant activity.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity has been low over the past 24 hours with two common class flares, from a region beyond the west limb, observed. There are currently two sunspot regions on the visible disc. The main region of interest is in the south centre disc, and has shown minor growth in the last 24 hours, leading to some complexity developing. The other region is an unnumbered unipolar spot that has rotated onto the southeast disc, however more detail may become apparent as it transits the solar disc into a clearer view. No Earth-directed CMEs (coronal mass ejections) were observed.
Solar Wind / Geomagnetic Activity: Earth has likely been grazing the faster solar winds from a coronal hole on the Sun. This has led to elevated solar wind speeds. The strength of the magnetic field was generally weak to moderate, with the important north-south component fluctuating weakly between the two directions. Geomagnetic activity was Quiet (Kp 1-2)
Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Low solar activity is expected to continue, with a slight chance of M-class flares. Flare risks possibly increasing due to active regions rotating onto the visible disc later in the period.
Solar Wind / Geomagnetic Activity: No CMEs have been assessed as Earth-directed. Solar winds are elevated due to Earth experiencing the faster winds from a coronal hole. These winds are expected to persist until day 2 or 3 (4th-5th) before easing to background. Geomagnetic activity should remain mainly Quiet with a chance of Unsettled or Active intervals through the period perhaps increasing to mainly Unsettled with a slight chance of G1 minor geomagnetic storms on day 4 with the next fast wind.
Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to remain at background with no solar radiation storms occurring.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	5	5	1	10
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	20	20	20	20
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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